

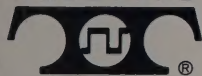
BASIC KSR



the 43 teleprinter

T.M.

TELETYPE



HOW TO OPERATE

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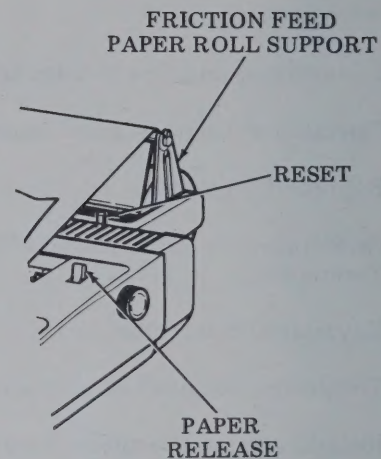
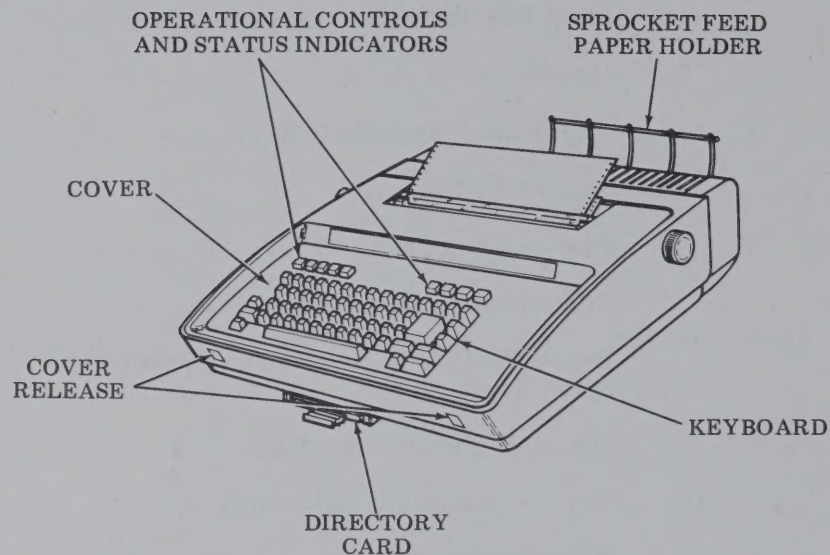
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43 KSR Friction Feed Teleprinter

43 KSR Sprocket Feed Teleprinter

HOW TO OPERATE INSTRUCTIONS

(Pages 1 Through 11)

INTRODUCTION

The 43 Basic KSR Teleprinter provides character-at-a-time keyboard-printer send-receive operation. Transmission speeds are 10 characters per second (cps) (100 wpm) or 30 cps (300 wpm) and can be selected by the attendant to match the remote station.

The 43 Teleprinter may be connected to an external communications device (modem) which may be associated with a telephone for connections and for transmission of data. A permanent connection via private line may also be used in these arrangements.

When connected directly to an associated modular telephone, calls are originated in a manner similar to regular telephone calls and can be answered either automatically or manually. The telephone can be used for normal voice communication or data messages can be exchanged over the telephone line using controls on the 43 Teleprinter.

In some arrangements the 43 Teleprinter may be connected directly to a computer or remote terminal.

On sprocket feed printers, messages with up to 132 characters per line are printed on 12 inch wide sprocket feed paper. The paper may be fed from a supply box or limited amounts can be placed in a paper holder that clips on the rear of the teleprinter. (See Page 8 for paper suppliers.)

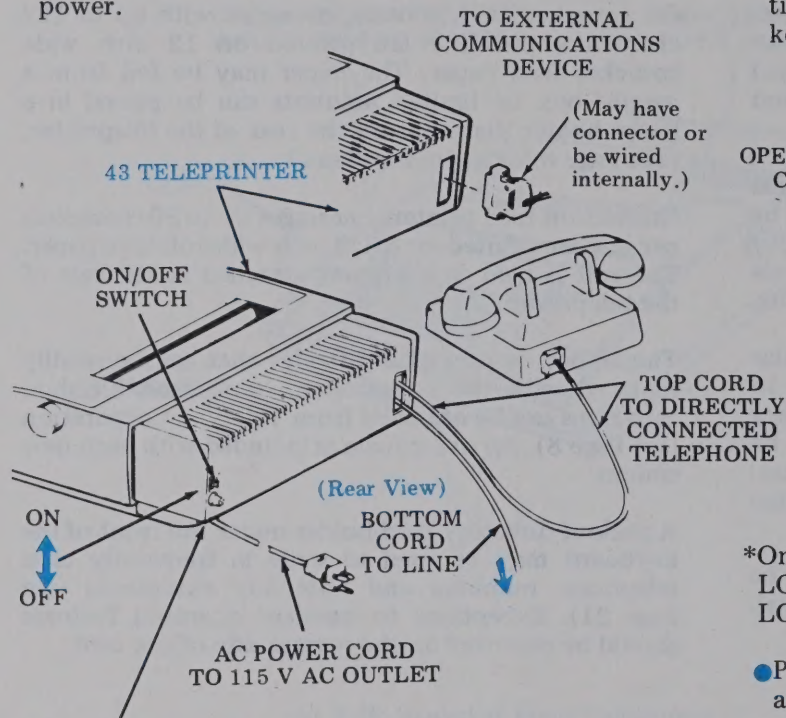
On friction feed printers, messages up to 80 characters per line are printed on 8-1/2 inch wide roll type paper. The roll is held in a support attached to the rear of the teleprinter.

The ribbon is part of a cartridge that can be readily replaced with the cover open. Replacement ribbon cartridges can be obtained from Teletype Corporation (see Page 8). An order form is included with each new ribbon.

A pullout directory card holder under the front of the keyboard may be used to write in frequently used telephone numbers and note any extensions (see Page 21). Exceptions to standard operating features should be recorded on the reverse side of the card.

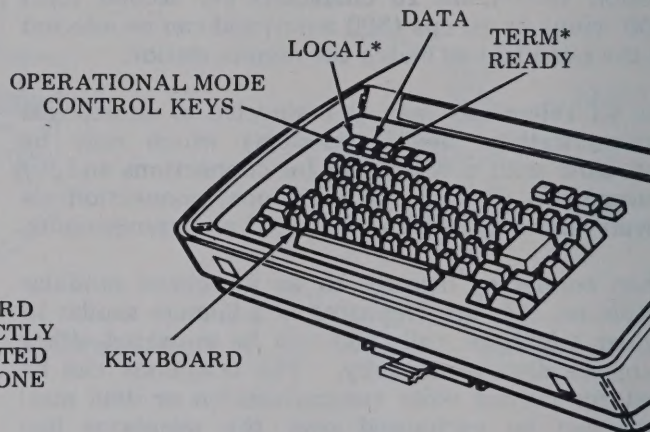
CONNECTIONS AND POWER TURN ON

- Make sure ac power cord and modular telephone cords or cord to any external communications device are connected as shown before turning on power.



- Turn on power to teleprinter by depressing upper half of ON/OFF switch.

- When power is first turned on, the print head will move fully left and the TERM READY key on the operator console will light. During normal operation one of the three operational mode control keys should always be lit indicating power is on.

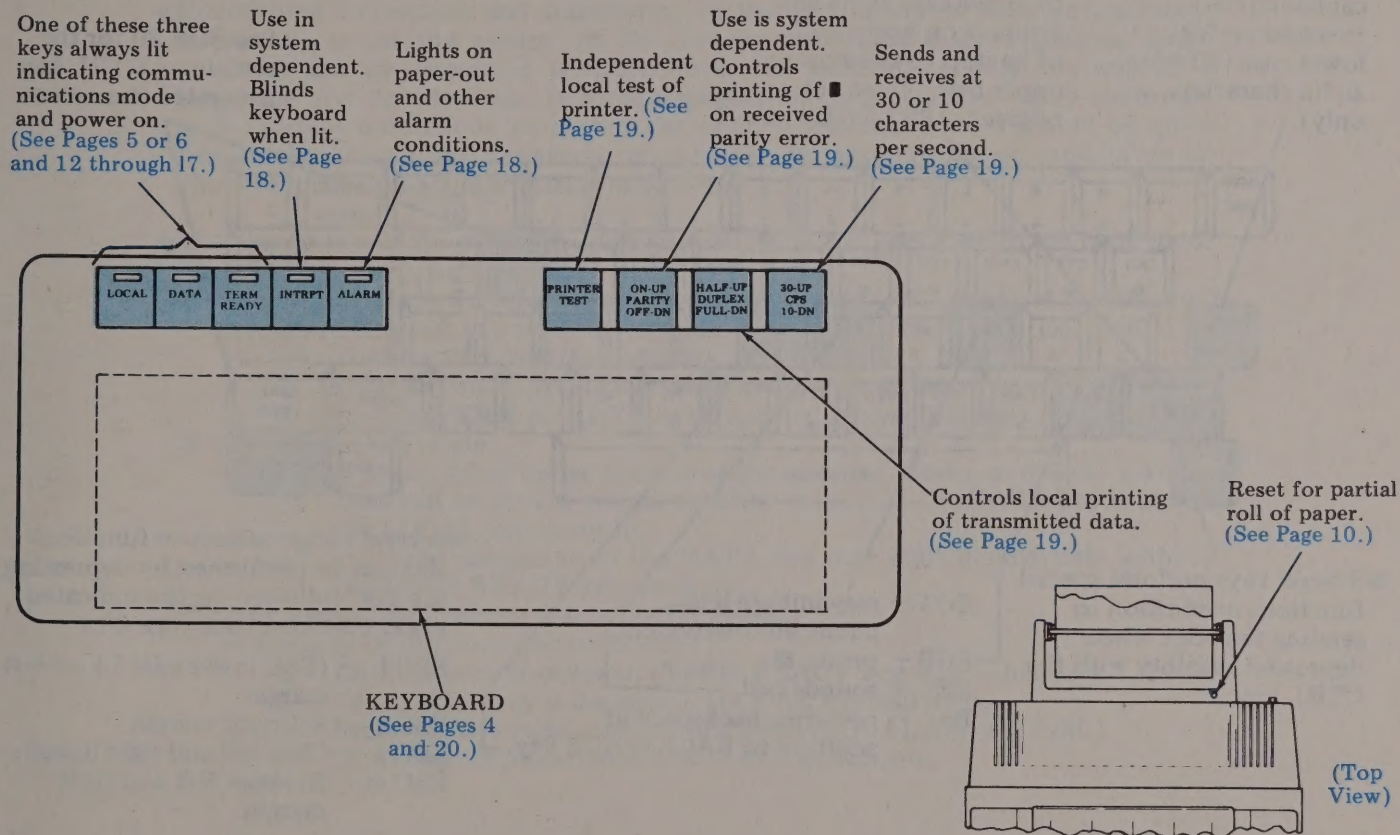


*On sets with a directly connected telephone, the LOCAL and TERM READY keys are marked LOCAL-TALK and AUTO ANSW, respectively.

- Power should normally be left on to automatically answer incoming calls on arrangements so equipped or receive data messages. However, when not in use, the power to the teleprinter may be turned off without affecting the normal use of the telephone.

OPERATIONAL CONTROLS AND STATUS INDICATORS

- Use and function of the operational control and status indicators should be reviewed before the 43 Teleprinter is operated locally or on-line.



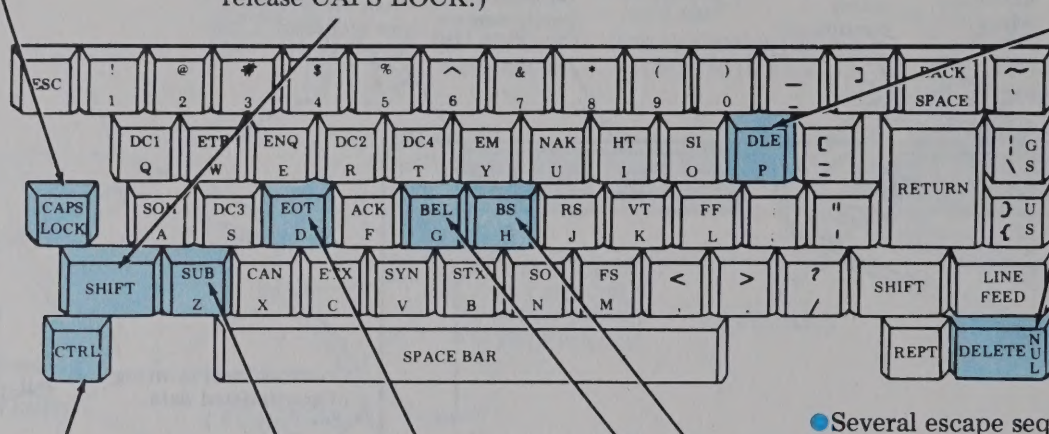
KEYBOARD LAYOUT

- The keyboard is operational locally in the Local mode and on-line in the Data mode.

Locks down for capital alpha. Releases up for lower case (affects alpha characters only).

Shifts lower case alpha to upper case alpha and symbols on lower half of keytop to symbols on upper half. (Does not release CAPS LOCK.)

See Page 20 for the remaining CTRL key generated characters.



- Several keys perform special functions in addition to sending the code when depressed together with the CTRL key:

EOT — may initiate telephone line disconnect.

SUB — prints ■ .

BEL — sounds bell.

BS — performs backspace in addition to BACKSPACE key.

- Several escape sequence functions also can be performed by depressing the ESC followed by the indicated lower case key. (See Page 20.)

ESC l — (ESC lower case L) set left margin.

ESC r — Set right margin.

ESC x — Clear left and right margin.

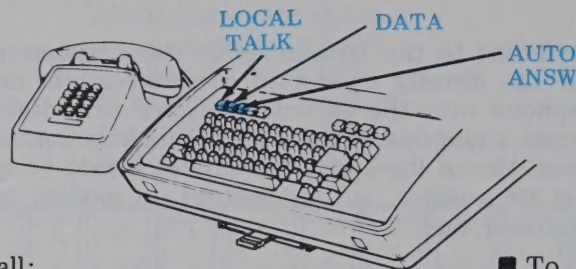
ESC m — Releases left and right margin.

Procedures for Arrangements Without an Associated Telephone Directly Connected to the Terminal

- Establishing connection and transferring to the Data mode on these arrangements is basically under the control of the directly connected communications device (modem) and its associated telephone over the switched-network or, without a telephone over private lines. In some arrangements terminals are directly connected to the distant terminal or computer. Use of these external devices should be specified locally since many variations are possible, ie, pushbuttons on modem or on phone, exclusion keys, automatic answer, etc.
- The procedures as shown below, that normally apply to operation of the controls of the terminal, should be followed:
 - Before transferring a telephone call to the Data mode (call originated or answered) or to place terminal in a ready condition:
 1. Turn on ac power (see Page 2).
 2. Clear any alarm condition (paper-out, cover open).
 3. Depress TERM READY key (if not lit). Key should light.
 - Transfer to Data mode
 - The DATA key lights under control of the external device or distant station:
 1. Data can be sent or received on-line only when the DATA key is lit and the LOCAL key is not lit.
 2. On some arrangements the DATA key may light immediately without the TERM READY key being lit.
 - To disconnect a telephone call in DATA mode
 - Calls may be disconnected as follows:
 1. An EOT code is received. (TERM READY key may light.)
 2. The LOCAL key is depressed. (LOCAL key will light.)
 3. Paper-out and eight received line feeds (LOCAL key will light.)
 4. Other log-off procedures, loss of data signals, etc.

Procedures for Arrangements With an Associated Telephone Directly Connected to the Terminal

- Telephone calls must be originated and answered as follows in order to send and receive messages or talk. Calls can also be disconnected as described below. Power must be on to complete a data call (see Page 2).



■ To Originate a Call:

1. **LOCAL TALK** key lit. Depress if not lit. Dial in normal manner. (If dial tone is not heard, hang up momentarily.)
2. Listen for Data tone or talk:
 - If tone is heard, transfer to Data.
 - If no tone is heard, talk, then transfer to Data when agreed.
3. Transfer to Data mode by depressing **DATA** key and hang up. Key lights (may flash before lighting).
4. Data transmission may begin.

■ To Answer a Call With **AUTO ANSW** Key Lit: (May be depressed to light.)

1. No action required. Phone rings once. **DATA** key lights and **AUTO ANSW** key extinguishes.
2. Data transmission may begin.

■ To Answer a Call With **LOCAL TALK** Key Lit: (Depress if not lit.)

1. When phone rings lift handset and talk.
2. When agreed, transfer to data by depressing **DATA** key and hang up.
3. Key lights (may flash before lighting).
4. Data transmission may begin.

■ To Disconnect a Call:

1. In Data mode:
 - Depress the **LOCAL TALK** key or:
 - Send EOT or other log-off procedures or:
 - Transfer to Automatic Answer mode.
2. In Local Talk mode:
 - Hang up handset.

Note: Call may also disconnect from remote signals, such as received EOT. See the backside of the directory card for any exception to this feature, Option 433b.

KEYBOARD-PRINTER OPERATION

- The keyboard-printer can be operated locally with the LOCAL or LOCAL-TALK key lit or on-line with the DATA key lit.

- **Signal Bell**

The signal bell sounds when characters are entered seven characters before and at the right margin, ie, margin at 80, bell at 73 and 80. Also sounds at left margin when attempting to backspace and when an interrupt is sent.

- **Local Return Line Feed**

The carriage is returned and the paper advances one line when the CTRL RETURN keys are operated together. No character is sent on-line.

- **Printer**

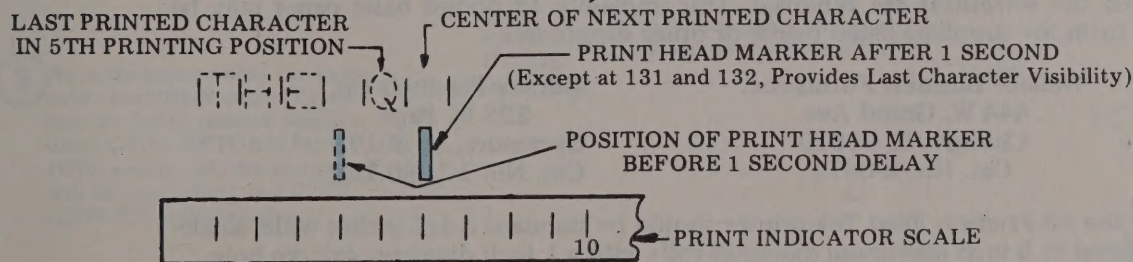
The printer copies all printable data messages except that in full duplex (Data mode only) the printer copies received data only.

- **Margin Setting**

When power is turned on, the left- and right-hand printing margins are reset to 1 and 132 on sprocket feed or 1 and 80 on friction feed. They may be set or cleared locally or on-line by using the escape sequences. See Page 4. To change either margin outward, both must be reset.

- **Indicator Scale**

The next printing location of the print head and the position for setting left- and right-hand margins is indicated by the print head marker at the print indicator scale. The print head moves back when printing resumes after 1 second delay.



TELEPRINTER SUPPLIES MAINTENANCE

It is your responsibility to keep the teleprinter equipped with sufficient paper and ribbon. In addition, an adequate supply of these items should be ordered and kept in storage.

Ribbon

Only cartridges with ribbon designated for use with 43 Teleprinter should be used. Teletype part number is 430035.

The cartridge with ribbon can be ordered from Teletype Corporation, 5555 Touhy Avenue, Skokie, IL 60076. An order form included with each new cartridge may be used for this purpose or established ordering procedures may be followed for large orders.

The ribbon should be replaced whenever it becomes frayed or print density becomes light. After the first few ribbons, replacement ribbons should produce 3 million or more legible characters of printing.

Paper

Paper for the 43 Sprocket Feed Teleprinter must be 12 inch wide sprocket feed. The original and up to two-copy multi-ply forms may be used. Paper frequently used with each teleprinter is single-ply and has 8-1/2 inch folds to provide 11 inch x 8-1/2 inch copy when the serrations are removed. This single-ply 15 pound basic paper may be obtained from the suppliers listed below or other suppliers.

Wallace Business Forms Inc.
444 W. Grand Ave.
Chicago, IL 60610
Cat. No. E-6879

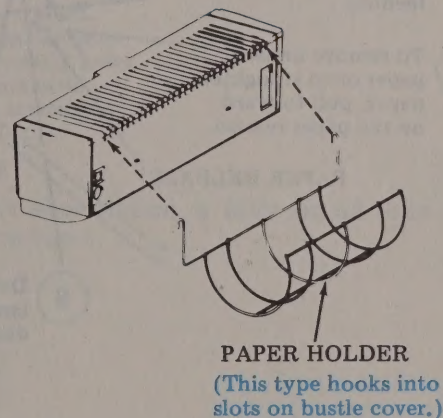
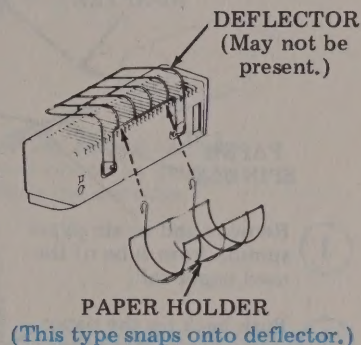
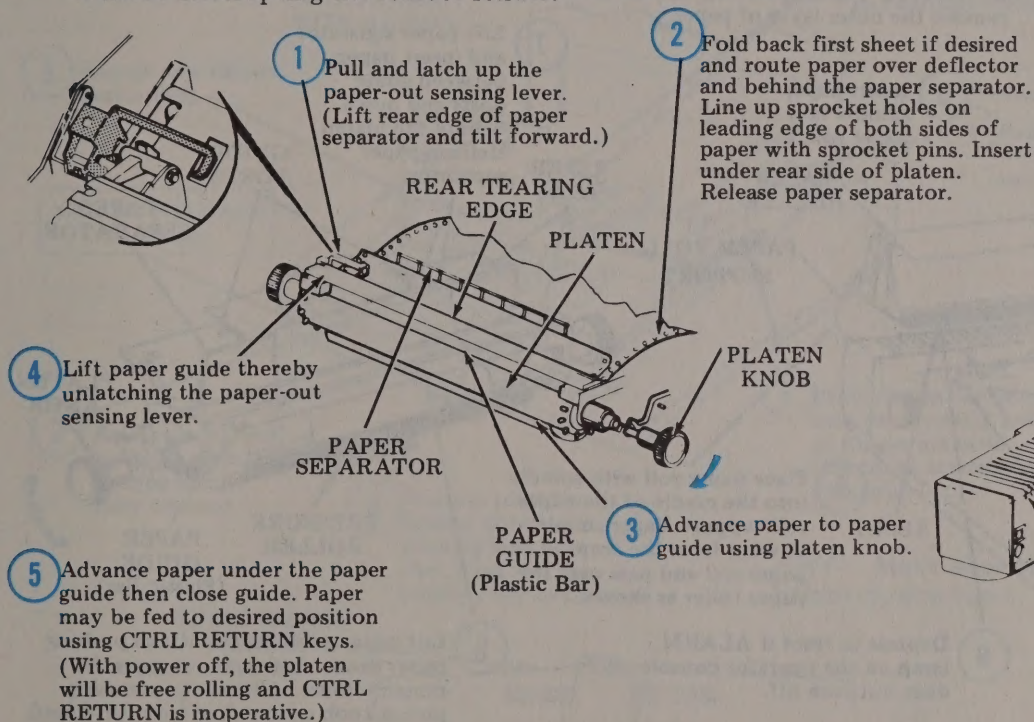
Duplex Products Co.
228 W. Page
Sycamore, IL 60178
Cat. No. 1-1280-15P

Paper for the 43 Friction Feed Teleprinter should be standard 8-1/2 inches wide, single-ply, furnished in 5 inch maximum diameter rolls with a 1 inch diameter spindle hole.

INSTALLING PAPER (Sprocket Feed)

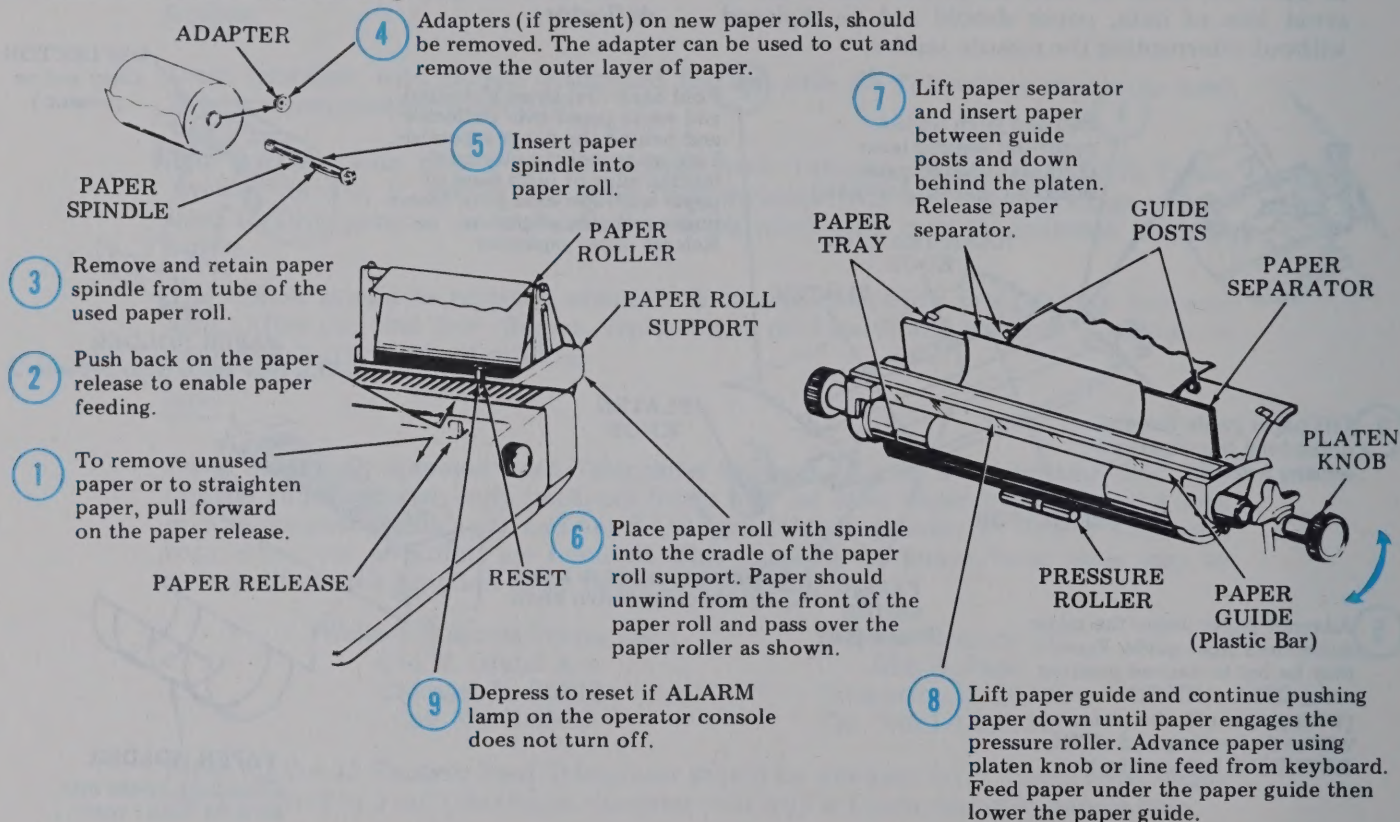
- Install paper as shown after centering the print head and removing the unused paper. It is not necessary to open the cover or turn off power. However, to avoid loss of data, paper should not be replaced without interrupting the remote sender.

Note: Paper may be fed directly from the supply box or if the paper holder is used, a limited stack of forms may be placed in the holder and fed over the deflector.



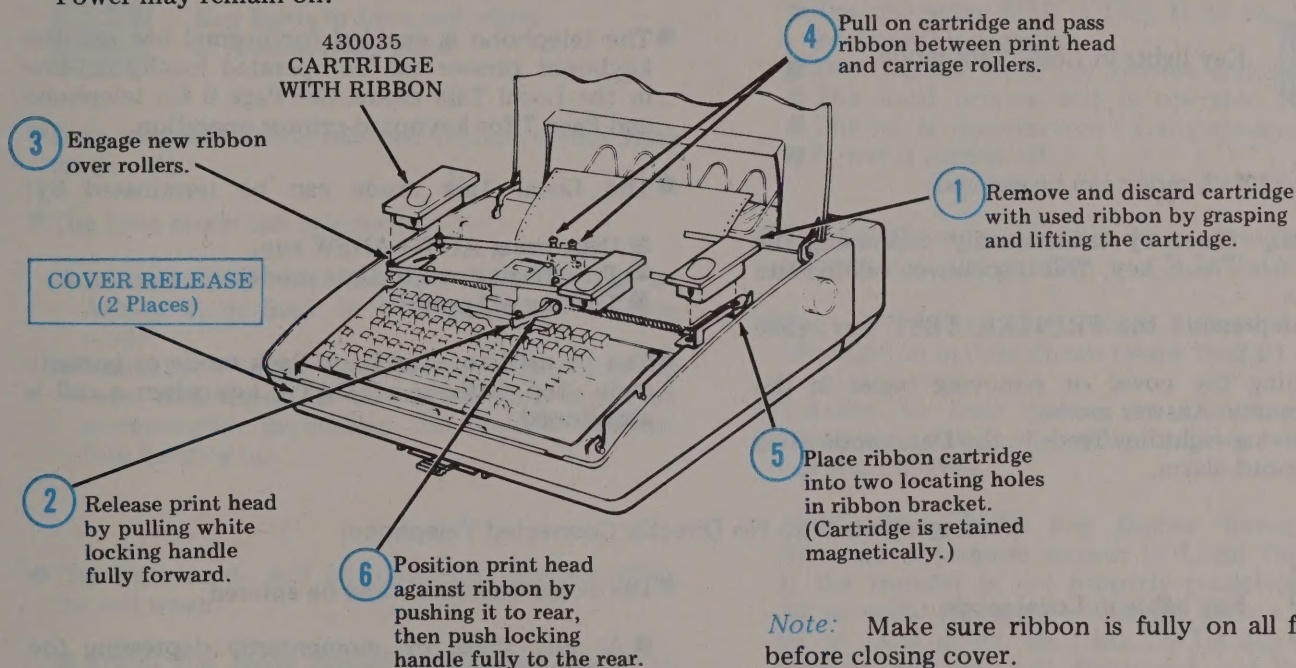
INSTALLING PAPER (Friction Feed)

- Install paper as shown after removing the unused paper from the printer. It is not necessary to turn off power or open the cover when replacing the paper but to avoid loss of data, paper should be replaced after the remote terminal stops sending.

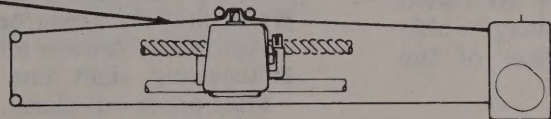


INSTALLING RIBBON

- Install ribbon as shown after centering the print head and opening cover. (Alarm lamp lights.) Any data received with the cover open will not be printed and the keyboard and operational controls will be disabled. Power may remain on.



FINAL RIBBON
ROUTING



Note: Make sure ribbon is fully on all four rollers before closing cover.

LOCAL TALK MODE KEY

(Arrangements With a Directly Connected Modular Telephone)



Key lights in Local Talk mode.

● The Local Talk mode can be entered:

- At any time, by momentarily depressing the **LOCAL TALK** key. Will disconnect call in Data mode.
- By depressing the PRINTER TEST key. (See Page 19.)
- Opening the cover or removing paper in the Automatic Answer mode.
- Receiving eight line feeds in the Data mode after paper-out alarm.

- The telephone is enabled for normal use and the keyboard printer can be operated locally off-line in the Local Talk mode. See Page 6 for telephone and Page 7 for keyboard-printer operation.

● The Local Talk mode can be terminated by:

- Depressing AUTO ANSW key.
- Transferring call to Data mode.
- Turning off power.
- Can be used to clear Loop-Back mode or immediately stop flashing of DATA key when a call is abandoned.

(Arrangements With No Directly Connected Telephone)



Key lights in Local mode.

- The keyboard printer can be operated locally off-line in the Local mode. (Telephones associated with external communications devices may be able to operate regardless of the condition of the **LOCAL** lamp.)

● The Local Talk mode can be entered:

- At any time, by momentarily depressing the **LOCAL TALK** key. This may cause a disconnect.
- When PRINTER TEST key is operated.
- Opening the cover or by removing paper in the Automatic Answer mode.
- Receiving eight line feeds in the Data mode after paper-out alarm.

DATA MODE KEY

(Arrangements With a Directly Connected Modular Telephone)



Key lights in Data and when in Analog Loop-Back.

- Data can be sent or received on-line in the Data mode only.
- The Data mode can be entered:
 - Automatically — following a telephone call or Analog Loop-Back in the Automatic Answer mode.
 - Manually — after a telephone connection has been established in the Local Talk mode by momentarily depressing the **DATA** key before hanging up.
- The Data mode will be terminated disconnecting the call when:
 - Eight line feeds are received after paper-out alarm. (See Page 18.)
 - The mode is manually transferred to Automatic Answer (Page 15) or Local Talk (Page 12).
 - The character EOT (CTRL D on the Model 43 keyboard) is received.
 - Data signals from the remote station are lost.
 - The local printer test is operated (Page 19).
 - The call is disconnected for any reason (Page 17).
 - Power is turned off.
- The telephone is disabled during the Data mode (cannot ring, dial or talk).
- The **DATA** key may blink indicating a short interruption in data signals (short flash).
- Transfer to Data cannot be completed if the answering station turned on power after the call was received.

Note: The **DATA** key flashes during transfer from the Automatic Answer or Local Talk modes. If the transfer is not properly completed within 20 seconds, (ie, local or distant station does not go to Data mode, etc.) the **DATA** key will stop flashing, the call will disconnect and the **AUTO ANSW** key will light.

(Arrangements With No Directly Connected Telephone)



Key lights in Data mode.

- With key lit (LOCAL and ALARM lamps not lit) data can be sent and received on-line.
- The Data mode is under control of the external communications device or directly connected distant terminal. (See TERM READY.)

- The DATA key is blocked from operation.

AUTOMATIC ANSWER MODE KEY

(Arrangements With a Directly Connected Modular Telephone)

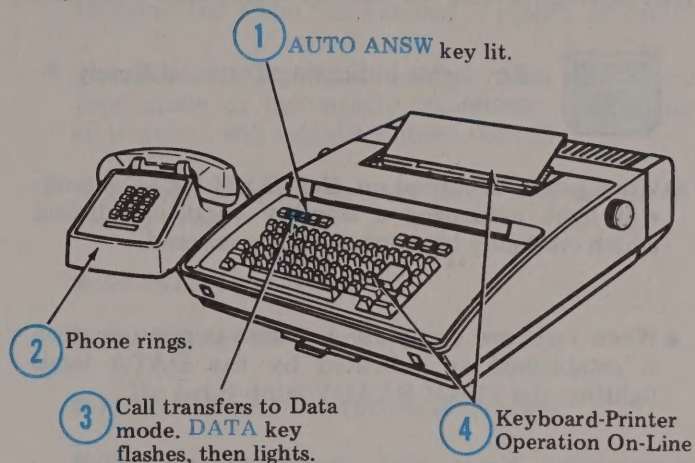


Key lights in Automatic Answer mode.

- When power is turned on, the teleprinter will be in the Automatic Answer mode. In this mode the telephone will be partially disabled. (No dial tone and no dialing or talking but the ringer can sound) and no printing or data transmission can occur.
- Telephone calls received in the Automatic Answer mode will be answered automatically after one ring on the telephone and the **AUTO ANSW** key will turn off.

Note: The handset must be on-hook to answer the call.

- Following the ring, the teleprinter will automatically transfer to the Data mode only after the remote originating station transfers to the Data mode.
- The Automatic Answer mode can also be entered:
 - Automatically — following calls in the Data mode. (See Pages 13 and 14 for Data mode.)
 - Automatically — following a flashing **DATA** key when a call is not completed.



- Depressing **AUTO ANSW** key momentarily after local operation or talking on the phone. (See Page 12 for Local Talk mode.) If depressed during Data mode the call will disconnect.
- The Automatic Answer mode can also be terminated by:
 - Opening the cover.
 - Operating local printer test.
 - Removing paper.
 - Manual transfer to Local Talk mode.
 - Turning off power.

(Arrangements With No Directly Connected Telephone)



Key lights indicating Terminal Ready mode.

- When power is turned on, the **TERM READY** lamp will light indicating a standby condition during which calls may be originated or answered.
- When calls are complete and data communication is established as indicated by the DATA lamp lighting, the **TERM READY** lamp turns off.
- The Terminal Ready mode can also be terminated by:
 - Opening the cover.
 - Operating local printer test.
 - Removing paper.
 - Manual transfer to Local Talk mode.
 - Turning off power.
- The Terminal Ready mode can be entered by depressing the **TERM READY** key momentarily. If depressed during the Data mode, a telephone call may disconnect or DATA lamp may extinguish.
- On private line arrangements, the **TERM READY** lamp lights only when the terminal is ready but the remote terminal or external data set is not ready.

TRANSFER TO TALK

(Arrangements With a Directly Connected Modular Telephone)

Calls can be transferred from the Data mode to the Talk mode. (See Page 5 for transfer back to the Data mode.)

To transfer to the Talk mode, lift the handset and depress the LOCAL TALK key at each station.

Note: If the LOCAL TALK keys are not depressed within 4 seconds of each other a possible disconnect or transfer to the Automatic Answer mode may occur. This can be avoided by prearranged "go to talk" signals that should be exchanged before the transfer is initiated.

(Arrangements With No Directly Connected Telephone)

Call transfer to Talk from the Data mode is under the control of external data communications devices and any associated telephone. Transferring to the Local mode may cause a disconnect. Normally, however, the external communications device will cause the DATA lamp to extinguish and the TERM READY to light when transfer to Talk is initiated.

DISCONNECTING TELEPHONE CALLS

- Telephone calls in the Local Talk mode will be disconnected when the handset is placed on-hook.
- Transfer to Automatic Answer from the Local Talk mode or incomplete transfer to Data (after 20 seconds) will also disconnect the call.
- Telephone calls in the Data mode may be disconnected when:
 - An EOT is received.
 - The printer test is initiated.
 - Manual transfer to Automatic Answer.
 - Transfer to Local Talk mode (disconnects after 4 seconds if handset is on-hook).
 - Eight line feeds received on-line after the ALARM key lights due to a paper-out condition (sprocket feed only).

INTERRUPT AND ALARM KEYS



Key lights when transmission has been interrupted by the remote station.

Note: The use of this key is system dependent. It may not be operable with some remote stations. When operable, its use should be under direction of the system.

● The INTRPT key operates as follows:

- It lights under control of the remote station. When lit, keyboard sending is disabled.
- If depressed momentarily when lit, the interrupt is canceled.
- If depressed when not lit, the remote station sending may be interrupted ie, stop sending. Locally bell rings and key lights momentarily.

● Interrupt is also canceled by a disconnect or when power is turned off.



Key lights or flashes when alarm condition exists.

● Lights when:

- Paper-out condition is sensed (sprocket feed). This is an advance warning that eight received line feeds later (in the Data mode), the call will

disconnect. Also, after thirteen line feeds, paper will be out at the print head.

- Low paper condition is sensed (friction feed). This is an advance warning that 25 to 50 feet of paper remain on the paper roll.
- When the cover is opened.
- When printer test is operated.

● Flashes when:

- Teleprinter is in a Loopback Test mode.

● Can be cleared by:

- Replacing paper or closing cover.
- On friction feed printers, if a partially full paper roll is installed, it may be necessary to depress the RESET key on the paper roll support. See Page 10.
- When flashing by:

ESC = sequence.

Depressing LOCAL TALK key.

Turning off power.

Note: In some systems, the ALARM key may be flashing during normal operation accompanied by printing. Unless otherwise instructed, the Alarm should be cleared after extended periods of flashing. See Page 20.

PRINTER TEST, PARITY, DUPLEX AND CHARACTER SPEED KEYS

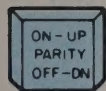


An independent test of the printer is provided for use by attendant or field service personnel. Test consists of continuous printing of the 94 character printed set as shown below. During test, bell rings and automatic return of carriage and line feed is performed within margin restraints.† Test should not be performed in Data mode since Data mode will be terminated and a telephone call will be disconnected. Depression of PRINTER TEST key initiates test. Test is terminated when this key is released. (See Pages 12 through 16 and 18 for keys that light or extinguish during test.)

Sample of Test Message

```
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
0                                0
```

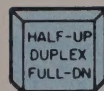
Line Length 72 — Option 432b.*
 Line Length 80 — Option 432c.*
 Option 431b.*
 Option 431c.*
 As Factory Furnished



The proper position of this key depends on system application. The remote sender may or may not be equipped to send correct (even) parity. The 43 Teleprinter sends even parity as factory furnished, Option 434a. When PARITY key is on, characters received with incorrect (odd) parity will print as substitute character symbol ■, when parity is off, the character that is received will be printed or performed if it is a printable character or a valid function. The PARITY key alternately locks down (DN) for parity off or releases up for parity ON to set parity checking mode.

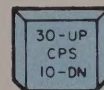
*See backside of directory card for record of any option exceptions that may have been enabled.

†If margins are set for less than 96 characters, a character will be skipped (not printed) each time a new line starts, except for the new line that starts a new cycle of printing.



Half-Duplex (key up) — printer copies data sent and received. The printer can be blinded to on-line transmission from the local keyboard while receiving messages simultaneously from the remote sender. This mode is known as Full Duplex (key down — DN).

Note: The local CR-LF function will not be performed in Full Duplex.



In Half-Duplex, the printer copies all data sent and received but only one sender can operate at a time without interference, ie, characters from the keyboard will be inhibited if the unit is receiving on-line. The key locks down or releases up.

In order to communicate in the Date mode, the transmission rates of the sending and receiving stations must be the same. This key alternately locks down or releases up and sets the on-line operating speed of the station to either 30 (key up) or 10 (key down — DN) characters per second (300 or 100 words per minute).

SPECIAL KEYBOARD CHARACTERS

- Codes for the following characters are generated from the 43 Teleprinter keyboard by use of the CTRL key and the key with the symbol shown, operated together.

These characters are not functional in the Model 43 Teleprinter but may be used in some systems.

DC1	EM	GS	VT	SYN
ETB	NAK	SOH	FF	STX
ENQ	HT	DC3	US	SO
DC2	SI	ACK	CAN	FS
DC4	DLE	RS	ETX	NUL

- The special escape sequences listed below (in addition to those on Page 4) are functional in the 43 Teleprinter by sending (or receiving) the character immediately following the escape character (ESC key).

Use of other escape sequences are system dependent. (Characters following ESC will not print).

ESC > Analog Loop-Back
ESC < Digital Loop-Back*
ESC = Clears either Loop-Back
ESC w Returns carriage and
paper advances one line.

Completely functional only on arrangements with a directly connected modular telephone. Alarm lamp may still flash.

*Used under control of remote station.

- Repeat speed varies depending on 10, 30 cps on line and approximately 50 cps locally.

KEY TELEPHONES AND EXTENSIONS

- The modular telephone directly connected to the 43 Teleprinter is used in accordance with the originating answering and disconnecting procedures on Pages 6 and 17. In these arrangements other phones cannot be used to originate data calls. The phone may be or have an extension and therefore would be subject to the limitations of extension telephones, for example:
 - Lifting handset, dialing or talking in an extension can interfere with data transmission.
 - Calls may not be disconnected if the extension is off-hook.
- In some cases, the modular phone may be a “designated” extension of a key telephone set. These extensions may be arranged (by use of an exclusion feature) to prevent interference from other phones. The installer should indicate the presence of any extension phones on the directory card.
- Key telephones may be associated with external data sets connected to the terminal. Use of these phones to originate and answer talk and data calls are under the control of the data set and should be specified locally.

WHEN TROUBLE OCCURS

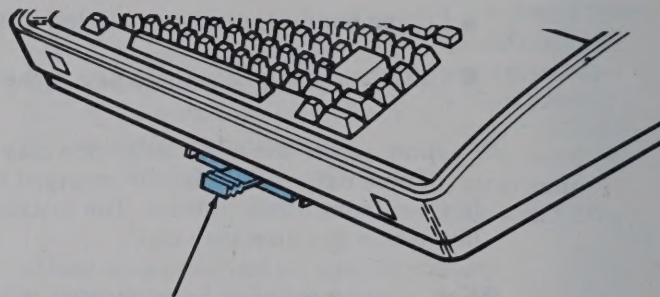
Trouble that is encountered with the terminal should be reported as locally specified. A number to be called in case of trouble may be entered on the directory card pullout by the installer.

If it can be determined that the trouble is in the remote equipment, the attendant at the location in trouble should follow local procedures for that area.

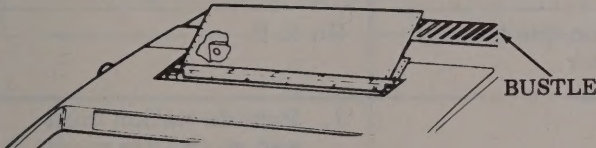
The following table of analysis questions is arranged to aid in the isolation of a trouble for:

- Local correction.
- Correction at the remote location.
- Advising service personnel in advance of trouble visit of Analysis Question results.

Before reporting a trouble, follow the **Analysis Questions** in the table always starting with Question no. 1 and then proceed according to the "Yes" or "No" directive on the following pages.



PULLOUT DIRECTORY
CARD FOR TROUBLE NUMBER

ANALYSIS QUESTION	YES	NO
1. Are one of the three communication mode keys lit? ●LOCAL or LOCAL-TALK ●DATA ●TERM READY or AUTO ANSW	Go to 2.	1. Check that power switch is on. 2. Check that power cord is connected. 3. Check source of power. (Wall switch, other equipment OK, circuit breaker, etc). 4. Report as local trouble in equipment.
2. Does test message print properly while the PRINTER TEST key is depressed? See Page 19.	Go to 4.	Go to 3.
3. Is red lamp on power supply lit? (Visible through slot in bustle 6th slot from the left). 	Report as local trouble in printer.	Report as local trouble in power supply.
4. Does printer respond properly to keyboard operation? (Local-Talk mode)	Go to 5 on terminals with a directly connected telephone. Go to 11 for other arrangements.	Report as local trouble in keyboard.

ANALYSIS QUESTION	YES	NO
5. Does printer respond properly to keyboard operation in Analog Loop-Back mode? (ie, print double in half-duplex.) (Entered from keyboard in Local Talk mode by ESC > sequence, ended by ESC =.) (Depress DATA key to light, ALARM key flashes.)	Go to 6.	Report as local trouble in "modem".
6. Does telephone operate normally in the Local Talk mode? (Dial tone, dialing, ringing, talk)	Go to 8.	1. Check that modular cords are connected at rear of teleprinter and phone. 2. Go to 7.
7. Does telephone operate normally when connected directly to line? (ie, modular cord from line connected to phone)	Report as local trouble in teleprinter.	Report as local trouble in telephone.
8. Does phone ring repeatedly in Automatic Answer mode? (ALARM key not lit.)	Report as on-line trouble in teleprinter.	Go to 9.
9. Does DATA key light following call in Automatic Answer or when DATA key is depressed after originating call? (Connection established.)	Go to 11.	1. Remote station must also go to Data mode. 2. Check that modular cords are not reversed, ie, top cord should go to phone. 3. If key does not flash or light, report as trouble in teleprinter. 4. Go to 10.

ANALYSIS QUESTION	YES	NO
10. Is proper tone heard in handset? (High tone if remote party answered the call automatically or transferred to data.)	Report as on-line trouble in teleprinter. (Call does not transfer to Data mode.)	Trouble may be in remote station. (Call does not transfer to Data.)
11. Are data messages properly sent and received in the Data mode?	Go to 12.	1. Check proper speed, DUPLEX and PARITY key positions. 2. Check that INTRPT key is off. 3. Report as on-line trouble in teleprinter unless trouble occurs with only one other station.
12. Is trouble present but not isolated by Questions 1 through 11?	Report other troubles as specified in local instructions.	

NOTES: _____



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